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CLAIMS

What is claimed is:

- 1 1. A method comprising:
2 placing a wafer on a chuck, the wafer having a front side attached to a tape;
3 obtaining a scribe pattern on the front side through the tape by an imaging
4 sensor; and
5 marking an alignment pattern on a back side of the wafer using a laser based on
6 the scribe pattern, the laser being mounted above the chuck.
- 1 2. The method of claim 1 wherein placing the wafer comprises:
2 placing the wafer front side up on the chuck.
- 1 3. The method of claim 2 wherein obtaining the scribe pattern comprises:
2 obtaining the scribe pattern on the front side by the imaging sensor mounted
3 above the wafer.
- 1 4. The method of claim 3 further comprising:
2 flipping the wafer to turn the back side up.
- 1 5. The method of claim 1 wherein placing the wafer comprises:
2 placing the wafer back side up on the chuck.
- 1 6. The method of claim 5 wherein obtaining the scribe pattern comprises:
2 obtaining the scribe pattern on the front side by the imaging sensor mounted
3 underneath the wafer.

1 7. The method of claim 1 wherein marking the alignment pattern
2 comprises:
3 receiving the scribe pattern from the imaging sensor; and
4 emitting a laser beam from the laser to etch the alignment pattern on the back
5 side, the alignment pattern being directly opposite to the scribe pattern.

1 8. The method of claim 1 further comprising:
2 recognizing the alignment pattern on the back side of the wafer.

1 9. The method of claim 8 further comprising:
2 cutting the back side of the wafer based on the alignment pattern.

1 10. The method of claim 1 further comprising:
2 recognizing the scribe pattern; and
3 saving the scribe pattern in a memory.

1 11. A method comprising:
2 controlling an imaging sensor to obtain a scribe pattern on a front side of a
3 wafer placed on a chuck, the front side being attached a tape;
4 recognizing the scribe pattern; and
5 controlling a laser to mark an alignment pattern on a back side of the wafer
6 based on the scribe pattern, the laser being mounted above the chuck.

1 12. The method of claim 11 wherein controlling the imaging sensor
2 comprises:
3 controlling the imaging sensor mounted above the wafer.

1 13. The method of claim 11 wherein controlling the imaging sensor
2 comprises:

3 controlling the imaging sensor mounted underneath the wafer.

1 14. The method of claim 11 wherein controlling the laser comprises:
2 emitting a laser beam from the laser to etch the alignment pattern on the back
3 side, the alignment pattern being directly opposite to the scribe pattern.

1 15. The method of claim 11 further comprising:
2 activating a flipping mechanism to turn the back side of the wafer up.

1 16. The method of claim 11 further comprising:
2 saving the scribe pattern in a memory.

1 17. The method of claim 11 further comprising:
2 recognizing the alignment pattern on the back side of the wafer.

1 18. The method of claim 17 further comprising:
2 controlling a cutter to cut the back side of the wafer based on the alignment
3 pattern.

1 19. An article of manufacture comprising:
2 a machine-accessible medium including data that, when accessed by a machine,
3 causes the machine to:
4 control an imaging sensor to obtain a scribe pattern on a front side of a
5 wafer placed on a chuck, the front side being attached a tape;
6 recognize the scribe pattern; and

7 control a laser to mark an alignment pattern on a back side of the wafer
8 based on the scribe pattern, the laser being mounted above the chuck.

1 20. The article of manufacture of claim 19 wherein the data causing the
2 machine to control the imaging sensor comprises data that, when accessed by the
3 machine, causes the machine to:
4 control the imaging sensor mounted above the wafer.

1 21. The article of manufacture of claim 19 wherein the data causing the
2 machine to control the imaging sensor comprises data that, when accessed by the
3 machine, causes the machine to:
4 control the imaging sensor mounted underneath the wafer.

1 22. The article of manufacture of claim 19 wherein the data causing the
2 machine to control the laser comprises data that, when accessed by the machine, causes
3 the machine to:
4 emit a laser beam from the laser to etch the alignment pattern on the back side,
5 the alignment pattern being directly opposite to the scribe pattern.

1 23. The article of manufacture of claim 19 wherein the data further
2 comprises data that, when accessed by the machine, causes the machine to:
3 activate a flipping mechanism to turn the back side of the wafer up.

1 24. The article of manufacture of claim 19 wherein the data further
2 comprises data that, when accessed by the machine, causes the machine to:
3 save the scribe pattern in a memory.

1 25. The article of manufacture of claim 19 wherein the data further
2 comprises data that, when accessed by the machine, causes the machine to:
3 recognize the alignment pattern on the back side of the wafer.

1 26. The article of manufacture of claim 25 wherein the data further
2 comprises data that, when accessed by the machine, causes the machine to:
3 control a cutting mechanism to cut the back side of the wafer based on the
4 alignment pattern.

1 27. A system comprising:
2 a chuck to hold a wafer, the wafer having a front side attached to a tape;
3 an imaging sensor to obtain a scribe pattern on the front side through the tape;
4 and
5 a laser mounted above the chuck to mark an alignment pattern on a back side of
6 the wafer based on the scribe pattern.

1 28. The system of claim 27 wherein the chuck holds the wafer front side up.

1 29. The system of claim 26 wherein the imaging sensor is mounted above
2 the wafer.

1 30. The system of claim 27 further comprising:
2 a flipping mechanism to turn up the back side of the wafer.

1 31. The system of claim 25 wherein the chuck holds the wafer back side up.

1 32. The system of claim 29 wherein the imaging sensor is mounted
2 underneath the wafer.

1 33. The system of claim 25 wherein the laser emits a laser beam from the
2 laser to etch the alignment pattern on the back side, the alignment pattern being directly
3 opposite to the scribe pattern.

1 34. The system of claim 25 further comprising:
2 a processing unit to recognize the alignment pattern on the back side of the
3 wafer.

1 35. The system of claim 32 further comprising:
2 a cutter to cut the back side of the wafer based on the alignment pattern.

1 36. The system of claim 32 wherein the processing unit recognizes the
2 scribe pattern and saves the scribe pattern in a memory.